

REMARKS

In the outstanding Office Action, the Examiner rejected claims 1-69 under 35 U.S.C. § 101; rejected claims 1-69 on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-26 of U.S. Patent No. 6,359,849 to Sato et al. ("Sato") in view of U.S. Patent No. 6,240,121 to Senoh ("Senoh"); rejected claims 1-69 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,061,793 to Tewfik ("Tewfik") in view of Senoh.

By this amendment, Applicant has canceled claims 51 and 61, and has amended claims 1-50, 52-60, and 62-69. Claims 1-50, 52-60, and 62-69 are now pending in this application.

I. Rejection under 35 U.S.C. § 101

Regarding the rejection of claims 1-69 under 35 U.S.C. § 101, Applicant initially notes that the rejection of canceled claims 51 and 61 is moot. With respect to the rejection, the Examiner states "the recitation of the steps are purely mathematical in nature requiring manipulation of an abstract idea." Office Action, page 2. Applicant respectfully traverses this rejection.

In order to satisfy the requirements of 35 U.S.C. § 101, the claimed invention as a whole must at least accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 149 F. 3d 1368, 1373, 47 USPQ2d 1596, 1601-1602.

Independent claims 1 and 25, as amended, recite a combination including "embedding additional information into an input audio signal and outputting an output audio signal having the embedded additional information" then "outputting the output audio signal

having the embedded additional information.” Accordingly, the method of claim 1 and the apparatus of claim 25 may be used in a receiving “an input audio signal,” then “embedding additional information,” into the input audio signal, and outputting the audio signal having the additional information embedded therein.

Similarly, independent claims 50 and 60, as amended recite a combination including “receiving the audio signal having embedded additional information,” subsequently “demodulating the embedded additional information,” and “outputting the demodulated embedded additional information.” Accordingly, the method of claim 50 and the apparatus of claim 60 may be used in “receiving an audio signal,” which has “embedded additional information,” “demodulating the embedded additional information,” and then outputting the additional information that was embedded in the received audio signal. Accordingly, Applicant respectfully submits that the method of claims 1 and 50, and the apparatus of claims 25, and 60, as amended, produce a “useful, concrete and tangible result,” and accordingly request that the rejection of claims 1-50, 52-60, and 62-69 under 35 U.S.C. § 101 be withdrawn. See MPEP § 2106, 8th Ed. (Rev. 4), October, 2005.

II. **Double Patenting Rejections**

With regards to the rejection of claims 1-69 on the ground of nonstatutory obviousness-type double patenting, Applicant initially notes that the rejection with respect to canceled claims 51 and 61 is moot. In addition, Applicant respectfully traverses this rejection on the ground that claims 1-50, 52-60, and 62-69 are not merely an obvious variation of claims 1-26 of Sato.

In order to establish a ground for nonstatutory obviousness-type double patenting, the Examiner must establish that the pending claims of the present application are an obvious variant of the patented or pending claims of a commonly owned patent or patent application, using analysis that parallels that of a rejection under 35 U.S.C. § 103(a). See MPEP § 804 8th Ed. (Rev. 4), October, 2005. That is, the Examiner must establish that every element of the pending claims are recited in or suggested by the patented or pending claims of a commonly owned patent or patent application.

Independent claims 1, 25, 50, and 60 recite a combination including at least “damping and shifting a predetermined number of orthogonal transform coefficients selected from the plurality of orthogonal transform coefficients in the direction of the frequency axis.” Sato does not recite at least this feature, and at page 3 of the Office Action, the Examiner acknowledges that Sato “does not specifically claim damping and shifting.” To attempt to cure the deficiency of Sato, the Examiner cites Senoh. Office Action, page 3. However, Senoh fails to cure the above-noted deficiency of Sato.

Senoh discloses “[a] watermark data insertion method for inserting watermark data into an input signal” (abstract), wherein

[t]he signal amplitude of the watermark data W_j is selected to be smaller than that of the signal b_i by increasing or decreasing the signal amplitude of the watermark data W_j in such a manner that the watermark data is masked by the signal b_i , to prevent unauthorized detection. (col. 7, line 64 - col. 8, line 2.)

However, Senoh is silent as to at least “shifting a predetermined number of orthogonal transform coefficients ... in the direction of the frequency axis,” as recited in claims 1,

25, 50, and 60. Because Sato does not recite or suggest at least this feature, and Senoh does not disclose this feature, claims 1, 25, 50, and 60, and all claims that depend therefrom, are not obvious variants of claims 1-26 of Sato. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of claims 1-50, 52-60, and 62-69 on the ground of nonstatutory obviousness-type double patenting.

III. Rejection under 35 U.S.C. § 103(a)

Regarding the rejection of claims 1-69 under 35 U.S.C. § 103(a), Applicant initially notes that the rejection of canceled claims 51 and 61 is moot. Moreover, Applicant disagrees with the Examiner's conclusions and assertions as set forth in the outstanding Office Action.¹ Accordingly, Applicant respectfully traverses this rejection on the ground that the Examiner has failed to establish a *prima facie* case of obviousness.

To establish a *prima facie* case of obviousness under 35 U.S.C. §103(a), each of three requirements must be met. First, the reference or references, taken alone or combined, must teach or suggest each and every element recited in the claims. Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the references in a manner resulting in the claimed invention. Third, a reasonable expectation of success must exist. Moreover, each of the three requirements must "be found in the prior art, and not be based on applicant's

¹ The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicant declines to automatically subscribe to any statement of characterization in the Office Action.

disclosure.” See MPEP § 2143, 8th Ed. (Rev. 4), October, 2005. At a minimum, the Examiner has failed to show that the references, whether taken alone or in combination, teach or suggest each and every element recited in the claims.

Independent claims 1, 25, 50, and 60 recite a combination including at least “damping and shifting a predetermined number of orthogonal transform coefficients selected from the plurality of orthogonal transform coefficients in the direction of the frequency axis.” At page 5 of the Office Action, the Examiner concedes that Tewfik “does not specifically teach damping and shifting the orthogonal transform coefficient such that the damping and shifting generates that additional information.” To attempt to cure this deficiency of Tewfik, the Examiner cites to Senoh, stating “[i]t would have been obvious to one of ordinary skill to scale and generate the watermark or additional embedding information as taught by Senoh, so as to provide for damping the coefficient.” Office Action, page 6 (emphasis added). Even if the Examiner’s characterization of Senoh could be considered correct, the Examiner only asserts that Senoh discloses “damping,” and does not mention that Senoh discloses “shifting a predetermined number of orthogonal transform coefficients ... in the direction of the frequency axis,” as recited in claims 1, 25, 50, and 60 (emphasis added).

Senoh discloses “[a] watermark data insertion method for inserting watermark data into an input signal” (abstract), wherein

[t]he signal amplitude of the watermark data W_j is selected to be smaller than that of the signal b_i by increasing or decreasing the signal amplitude of the watermark data W_j in such a manner that the watermark data is masked by the signal b_i , to prevent unauthorized detection. (col. 7, line 64 - col. 8, line 2.)

However, Senoh is silent as to at least "shifting a predetermined number of orthogonal transform coefficients ... in the direction of the frequency axis," as recited in claims 1, 25, 50, and 60. Because Tewfik and Senoh fail to disclose every feature recited in claims 1, 25, 50, and 60, a *prima facie* case of obviousness has not been established. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of claims 1, 25, 50, and 60 under 35 U.S.C. § 103(a).

Claims 2-24, 26-49, 52-59, and 62-69 respectively depend from claims 1, 25, 50, and 60. Because Tewfik and Senoh fail to disclose each and every feature recited in claims 1, 25, 50, and 60, that combination of references also fails to disclose each and every feature of the dependent claims. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of claims 2-24, 26-49, 52-59, and 62-69 under 35 U.S.C. § 103(a).

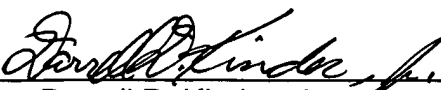
In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: March 14, 2006

By: 
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